MIAMI-SOUTH FLORIDA
National Weather Service
Forecast Office
http://www.weather.gov/miami

2015 RAINY SEASON OUTLOOK

"Near to Slightly Below Normal" Rainy Season Anticipated

May 19, 2015: The 2015 rainy season is underway across south Florida, with a designated start date of **May 10th**. Information on the methodology used to determine the start of the rainy season is included below.

Despite an earlier than normal start to the rainy season, the outlook for this rainy season is for near to slightly-below normal rainfall across the area. May and June will likely have above-normal rainfall, with a possible drier-than-normal period commencing sometime in July and continue through much of the remainder of the wet season.

Outlook Explanation

The outlook of near to slightly below normal precipitation is based on a combination of several factors: analogs (past summers with similar atmospheric conditions to what is expected this summer), long-range models, the official NOAA Climate Prediction Center outlooks (Figures 1 and 2) and trends (observed conditions over the past 10-20 years).

One of the primary influences to this rainy season is the presence of El Niño through the summer and fall. El Niño influences large-scale weather patterns which affect summer rainfall across South Florida. Although it's important to note that not every El Niño event has the same effects on Florida's weather, the tendency from past El Niño events is for near to slightly-below normal summer rainfall across southern Florida. Current long-range models and the CPC outlook generally support this tendency. During many El Niño summers, southern Florida sits on the northern edge of the climatologically-favored Caribbean dry summer regime, with some years extending more into Florida and other years remaining south of the state. The most likely range for this wet season's rainfall compared to normal is from 75% to 95% of normal, with a few areas likely to see higher or lower ratios.

Nevertheless, a “near to slightly below normal” wet season should still lead to a decent amount of rainfall across the area. Average wet season rainfall ranges anywhere from 35 to 45 inches, highest along interior suburbs of east and west coasts and lowest over coastal areas along both the Atlantic and Gulf coasts. South Florida’s daily summer rainfall tends to be highly variable in nature, with nearby areas potentially observing large differences in rainfall amounts. Normally it takes at least one or two organized, large-scale weather systems (such as tropical waves, disturbances or tropical storms/hurricanes) to provide high rainfall amounts over a large area.

The rainy season usually has three phases:

- Late May through early July (“stormiest” part of the season).

- Early July through mid-August (hotter with dry periods).

- Late August through mid-October (higher rainfall variability due to potential tropical systems and early-fall cold fronts).

This wet season’s outlook of wetter than normal conditions in late May and June could mean a more active severe weather period, including the threat of damaging thunderstorm winds, hail, flooding and even tornadoes. The potential drying trend in July and August matches up fairly well with the typical summer pattern of hotter and drier mid to late-summer weather across south Florida.

The temperature outlook for the wet season is for the likelihood of above normal temperatures, generally within 1 to 2 degrees F above normal. These above normal temperatures may be most noticeable in the overnight and early morning low temperatures due to the expectation of warmer than normal waters off the east coast of Florida.

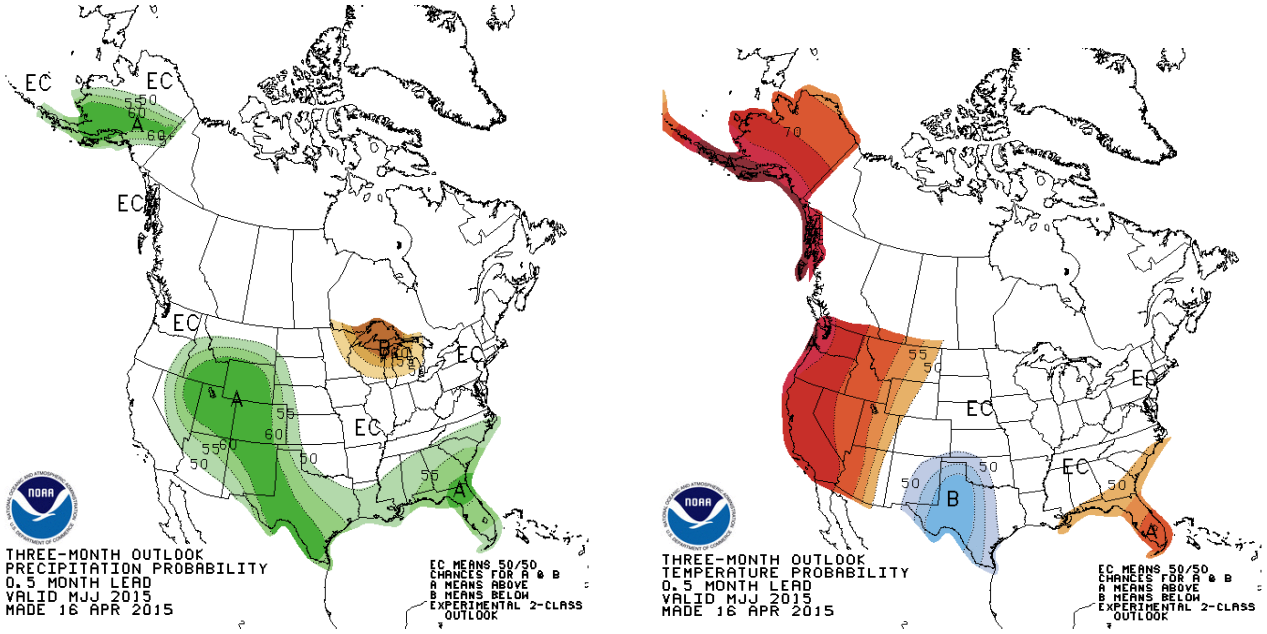


Figure 1: NOAA's Climate Prediction Center precipitation and temperature outlooks for May-July 2015.

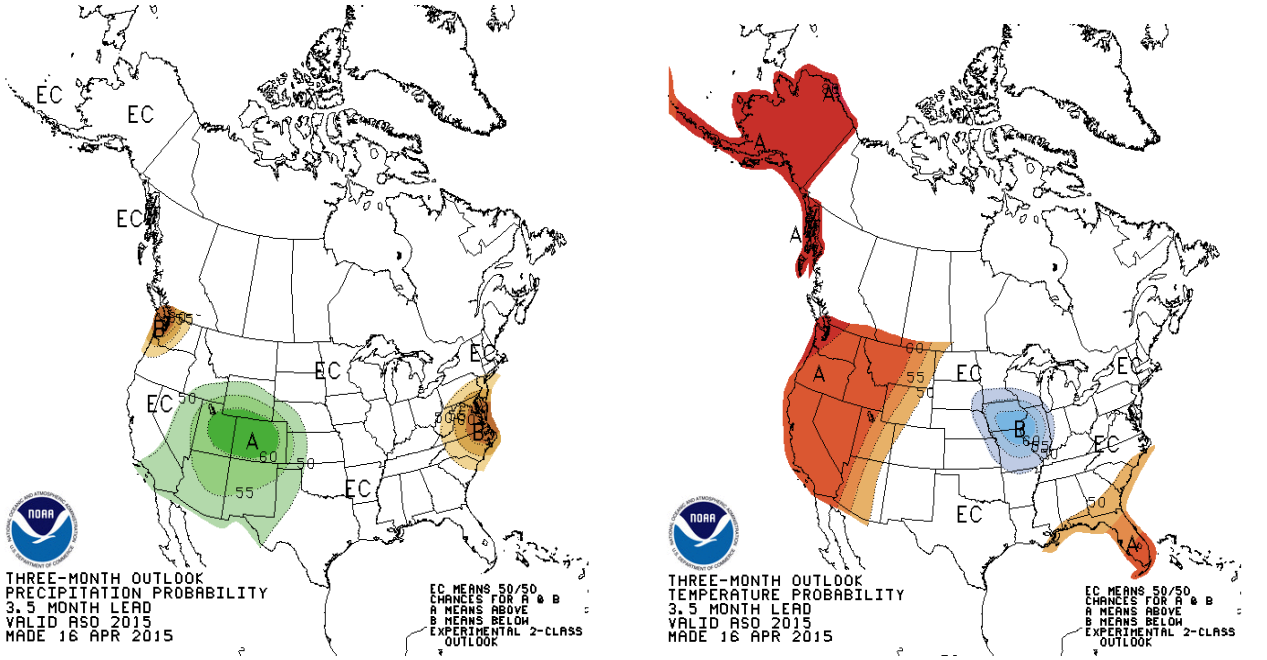


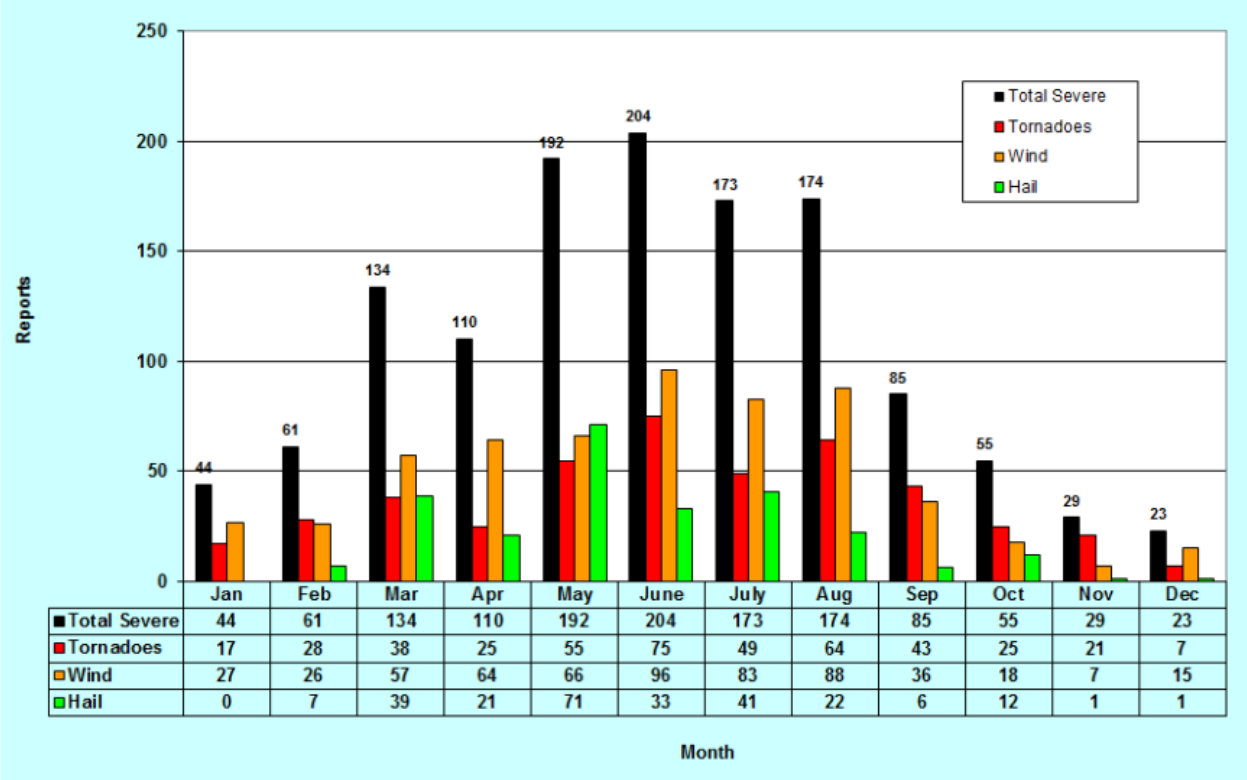
Figure 2: NOAA's Climate Prediction Center precipitation/temperature outlooks for August-October 2015

Weather Hazards and Potential Impacts

Weather hazards associated with the rainy season include lightning, damaging thunderstorm winds, flooding, hail and even tornadoes. May to August is the period

when most of South Florida's severe weather (flooding, large hail, tornadoes and strong winds) takes place (Figure 3). Also, rip currents are common due to the persistent onshore winds.

These hazards do not include impacts from any tropical systems that can affect South Florida, particularly during the peak months of August, September and October.



	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Total Severe	44	61	134	110	192	204	173	174	85	55	29	23
Tornadoes	17	28	38	25	55	75	49	64	43	25	21	7
Wind	27	26	57	64	66	96	83	88	36	18	7	15
Hail	0	7	39	21	71	33	41	22	6	12	1	1

Figure 3: Monthly Distribution of Severe Weather for southern Florida (1950-2012 Tornadoes & 1955-2012 Wind/Hail).

Please visit http://weather.gov/southflorida for daily forecasts and severe weather warnings and outlooks.

Definition and Significance of the South Florida Rainy Season

The South Florida rainy season is defined as the time of year when most of the yearly rainfall occurs. The median start date of the rainy season is May 20th and the median end date is October 17th. During this nearly five-month period, South Florida receives about 70% of the rainfall for the entire year. The start date of the rainy season varies from year to year and is largely determined by the onset and almost daily persistence of

daily showers and thunderstorms over the Florida peninsula, as well as night and morning showers and thunderstorms over the local Atlantic and Gulf waters. This is typically accompanied by an increase in humidity reflected by higher surface dew points (water-to-air saturation temperature associated with relative humidity); with persistent dew point values above 70F a general indicator. Daily temperatures exhibit very little variation, with low temperatures in the 70s to around 80 and high temperatures from the upper 80s to the mid-90s.

Some years, the rainy season begins abruptly; triggered by a large-scale weather system such as low pressure systems near or over Florida. Other years, the onset can be quite subtle and dependent on gradual wind shifts and weather pattern changes which can take weeks to develop. Therefore, the beginning of the rainy season is usually a transition period rather than a sharp onset date. For example, this year's beginning of the rainy season (May 10th), followed an unusually hot and wet period in mid to late April which can be referred to as a "quasi-rainy-season" due to its resemblance to typical rainy season conditions. However, this period was followed by a frontal passage on May 1 which initiated a drying and cooling trend which persisted through the first week of May. An increase in moisture and temperatures followed, which led to the start of the rainy season on May 10th when the summer Atlantic subtropical high became the main weather driver across south Florida.